AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of the claims in the present application.

Claims 1-28 (canceled).

29 (currently amended). An antibody which binds a vertebrate Delta protein, which vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the chick *Delta* sequence of SEQ ID NO:1, the antisense strand to the chick *Delta* sequence of SEQ ID NO:1, the chick *Delta* sequence of SEQ ID NO:3, the antisense strand to the chick *Delta* sequence of SEQ ID NO:3, the mouse *Delta* sequence of SEQ ID NO:11, the antisense strand to the mouse *Delta* sequence of SEQ ID NO:11, the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human *Delta* sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, the antisense strand to the human *Delta* sequence of SEQ ID NO:26, the mouse-human *Delta* consensus sequence of SEQ ID NO:24, and the antisense strand to the mouse-human *Delta* consensus sequence of SEQ ID NO:24, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.) dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS, and which antibody does not bind a *Drosophila* Delta protein.

30 (currently amended). An antibody, which binds a human Delta protein,

which human Delta protein is encoded by a first nucleic acid that hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human *Delta* sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, and the antisense strand to the human *Delta* sequence of SEQ ID NO:26, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.) dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS, which does not bind a *Drosophila* Delta protein.

31 (previously presented). The antibody of claim 29 or 30 which is monoclonal.

32 (previously presented). A molecule comprising a fragment of the antibody of claim 31, which fragment binds a vertebrate Delta protein.

Claims 33-59 (canceled).

60 (currently amended). A composition comprising an amount of an antibody which binds to a vertebrate Delta protein; and a pharmaceutically acceptable carrier, which vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the chick *Delta* sequence of SEQ ID NO:1, the antisense strand to the chick *Delta* sequence of SEQ ID NO:1, the chick *Delta* sequence of SEQ ID NO:3, the antisense strand to the chick *Delta* sequence of SEQ ID NO:3, the mouse

Delta sequence of SEQ ID NO:11, the antisense strand to the mouse *Delta* sequence of SEQ ID NO:11, the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human *Delta* sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, the antisense strand to the human *Delta* sequence of SEQ ID NO:26, the mouse-human *Delta* consensus sequence of SEQ ID NO:24, and the antisense strand to the mouse-human *Delta* consensus sequence of SEQ ID NO:24, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.) dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS, and which antibody does not bind a *Drosophila* Delta protein.

61 (currently amended). A composition comprising an amount of a fragment or derivative of an antibody to a vertebrate Delta protein containing the binding domain of the antibody; and a pharmaceutically acceptable carrier, which vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the chick *Delta* sequence of SEQ ID NO:1, the antisense strand to the chick *Delta* sequence of SEQ ID NO:1, the chick *Delta* sequence of SEQ ID NO:3, the antisense strand to the chick *Delta* sequence of SEQ ID NO:3, the mouse *Delta* sequence of SEQ ID NO:11, the antisense strand to the mouse *Delta* sequence of SEQ ID NO:11, the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human *Delta* sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, the antisense strand to the human *Delta*

sequence of SEQ ID NO:26, the mouse-human *Delta* consensus sequence of SEQ ID NO:24, and the antisense strand to the mouse-human *Delta* consensus sequence of SEQ ID NO:24, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.) dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS, and which antibody does not bind a *Drosophila* Delta protein.

Claims 62-98 (canceled).

99 (currently amended). The antibody of claim 29, 60 or 61, in which the vertebrate Delta protein comprises an amino acid sequence selected from the group consisting of the chick Delta sequence of SEQ ID NO:2, the mouse Delta sequence of SEQ ID NO:12, the human Delta sequence of SEQ ID NO:23, and the human Delta sequence of SEQ ID NOS:65-80.

100 (previously presented). The composition of claim 60 or 61, in which the antibody is monoclonal.

101 (previously presented). A fragment of the antibody of claim 29 or 30, which fragment binds a vertebrate Delta protein.

102 (previously presented). The antibody of claim 29, 30, 31 or 99, which antibody is purified.

103 (previously presented). The fragment of claim 101, which fragment is purified.

104 (previously presented). The molecule of claim 32, which molecule is

purified.

105 (currently amended). The antibody of claim 29, in which the vertebrate Delta protein comprises the amino acid sequence of SEQ ID NOS:65-80.

106 (currently amended). The antibody of claim 29, in which the vertebrate Delta protein comprises the amino acid sequence of SEQ ID NO:23.

107 (currently amended). The antibody of claim 29, in which the vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human *Delta* sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, and the antisense strand to the human *Delta* sequence of SEQ ID NO:26, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.) dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS.

108 (currently amended). The antibody of claim 29, in which the vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the mouse-human *Delta* consensus sequence of SEQ ID NO:24, and the antisense strand to the mouse-human *Delta* consensus sequence of SEQ ID NO:24, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution

containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.) dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS.

109 (currently amended). A method of making an antibody comprising:

(a) administering an immunogenic amount of a vertebrate Delta protein to a host animal, in which the vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the chick *Delta* sequence of SEQ ID NO:1, the antisense strand to the chick *Delta* sequence of SEQ ID NO:1, the chick *Delta* sequence of SEQ ID NO:3, the antisense strand to the chick *Delta* sequence of SEQ ID NO:3, the mouse *Delta* sequence of SEQ ID NO:11, the antisense strand to the mouse *Delta* sequence of SEQ ID NO:11, the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human *Delta* sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, the antisense strand to the human *Delta* sequence of SEQ ID NO:26, the mouse-human *Delta* consensus sequence of SEQ ID NO:24, and the antisense strand to the mouse-human *Delta* consensus sequence of SEQ ID NO:24, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.)

dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS, such that an antibody to said Delta protein is produced by said host animal; and

(b) recovering the antibody.

110 (currently amended). The method of claim 109, in which the vertebrate Delta protein comprises the amino acid sequence of SEQ ID NOS:65-80.

111 (currently amended). The method of claim 109, in which the vertebrate Delta protein comprises the amino acid sequence of SEQ ID NO:23.

112 (currently amended). The method of claim 109, in which the vertebrate Delta protein comprises the amino acid sequence of SEQ ID NO:12.

113 (currently amended). The method of claim 109, in which the vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human *Delta* sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, and the antisense strand to the human *Delta* sequence of SEQ ID NO:26, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.) dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and

0.1% SDS.

114 (currently amended). A method of making an antibody comprising:

(a) administering an immunogenic amount of a fragment of a vertebrate Delta protein to a host animal, in which the fragment comprises a domain of the protein selected from the group consisting of the extracellular domain, DSL domain, domain amino-terminal to the DSL domain, epidermal growth factor-like repeat domain, transmembrane domain, and intracellular domain, in which the vertebrate Delta protein is comprises an amino acid sequence encoded by a first nucleic acid that hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the chick *Delta* sequence of SEQ ID NO:1, the antisense strand to the chick *Delta* sequence of SEQ ID NO:1, the chick *Delta* sequence of SEQ ID NO:3, the antisense strand to the chick *Delta* sequence of SEQ ID NO:3, the mouse *Delta* sequence of SEQ ID NO:11, the antisense strand to the mouse *Delta* sequence of SEQ ID NO:11, the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human *Delta* sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, the antisense strand to the human *Delta* sequence of SEQ ID NO:26, the mouse-human *Delta* consensus sequence of SEQ ID NO:24, and the antisense strand to the mouse-human *Delta* consensus sequence of SEQ ID NO:24, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.) dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS, such that an antibody to said fragment is produced by said host animal; and

(b) recovering the antibody.

115 (currently amended). The method of claim 114, in which the fragment of the vertebrate Delta protein comprises the membrane-associated region of the vertebrate Delta protein.

116 (currently amended). The method of claim 114, in which the fragment of the vertebrate Delta protein comprises an epidermal growth factor-like ~~factor-homologous~~ repeat of the vertebrate Delta protein.

117 (previously presented). The method of claim 114, in which the fragment of the vertebrate Delta protein consists of at least 20 contiguous amino acids of the vertebrate Delta protein.

118 (currently amended). The method of claim 114, in which the fragment of the vertebrate Delta protein lacks the transmembrane and intracellular domain of the vertebrate Delta protein.

119 (currently amended). The method of claim 114, in which the fragment of the vertebrate Delta protein lacks the extracellular domain of the vertebrate Delta protein.

120 (currently amended). The method of claim 114, in which the fragment of the vertebrate Delta protein lacks the epidermal growth factor-like repeats of the vertebrate Delta protein.

121 (previously presented). An antibody produced by the method of claim 109, which does not bind a *Drosophila* Delta protein.

122 (previously presented). An antibody produced by the method of claim 114, which does not bind a *Drosophila* Delta protein.

123 (previously presented). The antibody of claim 121 or 122, in which the antibody is monoclonal.

124 (previously presented). The antibody of claim 121, 122 or 123, in which the antibody is purified.

125 (previously presented). A composition comprising an amount of an antibody of claim 121, 122, 123 or 124, and a pharmaceutically acceptable carrier.

126 (currently amended). The method of claim 109 or 114, in which the vertebrate Delta protein comprises an amino acid sequence selected from the group consisting of the chick Delta sequence of SEQ ID NO:2, the mouse Delta sequence of SEQ ID NO:12, the human Delta sequence of SEQ ID NO:23, and the human Delta sequence of SEQ ID NOS:65-80.

127 (currently amended). The method of claim 109 or 114, in which the vertebrate Delta protein comprises an amino acid sequence selected from the group consisting of the human Delta sequence of SEQ ID NO:23.

128 (currently amended). The method of claim 109 or 114, in which the vertebrate Delta protein comprises an amino acid sequence selected from the group consisting of the human Delta sequence of SEQ ID NOS:65-80.

129 (currently amended). A method of making an antibody comprising:

(a) administering an immunogenic amount of a protein comprising a fragment of a vertebrate Delta protein to a host animal, in which the fragment comprises a domain of the protein selected from the group consisting of the extracellular domain, DSL domain, domain amino-terminal to the DSL domain, epidermal growth factor-like repeat domain, transmembrane domain, and intracellular domain, in which the vertebrate Delta protein is comprises an amino acid sequence encoded by a first nucleic acid that hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the chick *Delta* sequence of SEQ ID NO:1, the antisense strand to the chick *Delta* sequence of SEQ ID NO:1, the chick *Delta* sequence of SEQ ID NO:3, the antisense strand to the chick *Delta* sequence of SEQ ID NO:3, the mouse *Delta* sequence of SEQ ID NO:11, the antisense strand to the mouse *Delta* sequence of SEQ ID NO:11, the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human

Delta sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, the antisense strand to the human *Delta* sequence of SEQ ID NO:26, the mouse-human *Delta* consensus sequence of SEQ ID NO:24, and the antisense strand to the mouse-human *Delta* consensus sequence of SEQ ID NO:24, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.) dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS, such that an antibody to said Delta fragment is produced by said host animal; and

(b) recovering the antibody.

130 (currently amended). The method according to claim 129, in which the fragment of the vertebrate Delta protein is joined via a peptide bond to an amino acid sequence of a second protein, in which the second protein is not the vertebrate Delta protein.

131 (currently amended). A method of making a monoclonal antibody comprising:

(a) administering an immunogenic amount of a vertebrate Delta protein to a mouse, in which the vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the chick *Delta* sequence of SEQ ID NO:1, the antisense strand to the chick *Delta* sequence of SEQ ID NO:1, the chick *Delta* sequence of SEQ ID NO:3, the antisense strand to the chick *Delta* sequence of SEQ ID NO:3, the mouse *Delta* sequence of SEQ ID NO:11, the antisense strand to the mouse *Delta*

sequence of SEQ ID NO:11, the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human *Delta* sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, the antisense strand to the human *Delta* sequence of SEQ ID NO:26, the mouse-human *Delta* consensus sequence of SEQ ID NO:24, and the antisense strand to the mouse-human *Delta* consensus sequence of SEQ ID NO:24, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.) dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS;

(b) recovering spleen cells from said mouse;

(c) fusing the recovered spleen cells with a cell of a mouse myeloma to generate hybridomas;

(d) screening to select a hybridoma producing antibody to said vertebrate Delta protein; and

(e) recovering the antibody.

132 (currently amended). A method of making a monoclonal antibody comprising:

(a) fusing a spleen cell from a mouse immunized with an immunogenic amount of a vertebrate Delta protein with a cell of a mouse myeloma to generate hybridomas, in which the vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the chick *Delta* sequence of SEQ ID NO:1, the

antisense strand to the chick *Delta* sequence of SEQ ID NO:1, the chick *Delta* sequence of SEQ ID NO:3, the antisense strand to the chick *Delta* sequence of SEQ ID NO:3, the mouse *Delta* sequence of SEQ ID NO:11, the antisense strand to the mouse *Delta* sequence of SEQ ID NO:11, the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human *Delta* sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, the antisense strand to the human *Delta* sequence of SEQ ID NO:26, the mouse-human *Delta* consensus sequence of SEQ ID NO:24, and the antisense strand to the mouse-human *Delta* consensus sequence of SEQ ID NO:24, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.) dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS;

(b) screening to select a hybridoma producing antibody to said vertebrate Delta protein; and

(c) recovering the antibody.

133 (currently amended). A method of making a monoclonal antibody comprising:

(a) administering an immunogenic amount of a vertebrate Delta protein to a host animal, in which the vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the chick *Delta* sequence of SEQ ID NO:1, the antisense strand to the chick *Delta* sequence of SEQ ID NO:1, the chick

Delta sequence of SEQ ID NO:3, the antisense strand to the chick *Delta* sequence of SEQ ID NO:3, the mouse *Delta* sequence of SEQ ID NO:11, the antisense strand to the mouse *Delta* sequence of SEQ ID NO:11, the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human *Delta* sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, the antisense strand to the human *Delta* sequence of SEQ ID NO:26, the mouse-human *Delta* consensus sequence of SEQ ID NO:24, and the antisense strand to the mouse-human *Delta* consensus sequence of SEQ ID NO:24, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.) dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS;

(b) recovering lymphocytes from said host animal;

(c) fusing the recovered lymphocytes with a cell of a myeloma, plastocytoma or lymphoblastoid cell line to generate hybridomas;

(d) screening to select a hybridoma producing antibody to said vertebrate Delta protein; and

(e) recovering the antibody.

134 (currently amended). A method of making a monoclonal antibody comprising:

(a) fusing a lymphocyte from a host animal immunized with an immunogenic amount of a vertebrate Delta protein with a cell of a myeloma, plastocytoma or lymphoblastoid cell line to generate hybridomas, in which the vertebrate Delta protein is

encoded by a first nucleic acid that hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the chick *Delta* sequence of SEQ ID NO:1, the antisense strand to the chick *Delta* sequence of SEQ ID NO:1, the chick *Delta* sequence of SEQ ID NO:3, the antisense strand to the chick *Delta* sequence of SEQ ID NO:3, the mouse *Delta* sequence of SEQ ID NO:11, the antisense strand to the mouse *Delta* sequence of SEQ ID NO:11, the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human *Delta* sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, the antisense strand to the human *Delta* sequence of SEQ ID NO:26, the mouse-human *Delta* consensus sequence of SEQ ID NO:24, and the antisense strand to the mouse-human *Delta* consensus sequence of SEQ ID NO:24, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.) dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS;

(b) screening to select a hybridoma producing antibody to said vertebrate Delta protein; and

(c) recovering the antibody.

135 (currently amended). A method of making a monoclonal antibody comprising:

(a) administering an immunogenic amount of a vertebrate Delta protein to a host animal, in which the vertebrate Delta protein is encoded by a first nucleic acid that

hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the chick *Delta* sequence of SEQ ID NO:1, the antisense strand to the chick *Delta* sequence of SEQ ID NO:1, the chick *Delta* sequence of SEQ ID NO:3, the antisense strand to the chick *Delta* sequence of SEQ ID NO:3, the mouse *Delta* sequence of SEQ ID NO:11, the antisense strand to the mouse *Delta* sequence of SEQ ID NO:11, the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human *Delta* sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, the antisense strand to the human *Delta* sequence of SEQ ID NO:26, the mouse-human *Delta* consensus sequence of SEQ ID NO:24, and the antisense strand to the mouse-human *Delta* consensus sequence of SEQ ID NO:24, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.) dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS;

(b) recovering lymphocytes from said host animal;

(c) immortalizing the recovered lymphocytes with Epstein-Barr virus to generate immortalized cells;

(d) screening to select an immortalized cell producing antibody to said vertebrate Delta protein; and

(e) recovering the antibody.

136 (currently amended). A method of making a monoclonal antibody comprising:

(a) immortalizing a lymphocyte from a host animal immunized with an immunogenic amount of a vertebrate Delta protein with Epstein-Barr virus to generate immortalized cells, in which the vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the chick *Delta* sequence of SEQ ID NO:1, the antisense strand to the chick *Delta* sequence of SEQ ID NO:1, the chick *Delta* sequence of SEQ ID NO:3, the antisense strand to the chick *Delta* sequence of SEQ ID NO:3, the mouse *Delta* sequence of SEQ ID NO:11, the antisense strand to the mouse *Delta* sequence of SEQ ID NO:11, the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human *Delta* sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, the antisense strand to the human *Delta* sequence of SEQ ID NO:26, the mouse-human *Delta* consensus sequence of SEQ ID NO:24, and the antisense strand to the mouse-human *Delta* consensus sequence of SEQ ID NO:24, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.) dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS;

(b) screening to select an immortalized cell producing antibody to said vertebrate Delta protein; and

(c) recovering the antibody.

137 (currently amended). A method of producing a phage Fab expression library comprising:

(a) isolating spleen cells from a host animal immunized with an immunogenic amount of a vertebrate Delta protein, in which the vertebrate Delta protein is encoded by a first nucleic acid that hybridizes under low stringency conditions to a second nucleic acid, or its complement, which second nucleic acid is selected from the group consisting of the chick *Delta* sequence of SEQ ID NO:1, the antisense strand to the chick *Delta* sequence of SEQ ID NO:1, the chick *Delta* sequence of SEQ ID NO:3, the antisense strand to the chick *Delta* sequence of SEQ ID NO:3, the mouse *Delta* sequence of SEQ ID NO:11, the antisense strand to the mouse *Delta* sequence of SEQ ID NO:11, the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human *Delta* sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, the antisense strand to the human *Delta* sequence of SEQ ID NO:26, the mouse-human *Delta* consensus sequence of SEQ ID NO:24, and the antisense strand to the mouse-human *Delta* consensus sequence of SEQ ID NO:24, said low stringency conditions comprising pretreatment for 6 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.1% PVP, 0.1% Ficoll, 1% BSA, and 500 μg/ml denatured salmon sperm DNA; hybridization for 18-20 hours at 40°C in a solution containing 35% formamide, 5X SSC, 50 mM Tris-HCl (pH 7.5), 5 mM EDTA, 0.02% PVP, 0.02% Ficoll, 0.2% BSA, 100 μg/ml denatured salmon sperm DNA, and 10% (wt./vol.) dextran sulfate; washing for 1.5 hours at 55°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS; and a second washing for 1.5 hours at 60°C in a solution containing 2X SSC, 25 mM Tris-HCl (pH 7.4), 5 mM EDTA and 0.1% SDS;

(b) amplifying, by polymerase chain reaction, antibody heavy and light chain nucleotide sequences from messenger RNA isolated from the spleen cells;

(c) cloning the amplified heavy chain and light chain nucleotide sequences into a lambda phage vector to produce a heavy chain library and a light chain library, respectively;

(d) combining and ligating the heavy and light chain nucleotide sequences from the heavy chain and light chain libraries to produce a phage Fab expression library that co-expresses antibody heavy and light chains; and

(e) screening the expression library for a phage that binds said vertebrate Delta protein.

138 (previously presented). The method of claim 131, 132, 133, 134, 135, 136 or 137, which second nucleic acid is selected from the group consisting of the human *Delta* sequence of SEQ ID NO:14, the antisense strand to the human *Delta* sequence of SEQ ID NO:14, the human *Delta* sequence of SEQ ID NO:26, the antisense strand to the human *Delta* sequence of SEQ ID NO:26, the mouse-human *Delta* consensus sequence of SEQ ID NO:24, and the antisense strand to the mouse-human *Delta* consensus sequence of SEQ ID NO:24.

139 (previously presented). The method of claim 131, 132, 133, 134, 135, 136 or 137, in which the Delta protein comprises the amino acid sequence of SEQ ID NOS:65-80.

140 (previously presented). The method of claim 131, 132, 133, 134, 135, 136 or 137, in which the Delta protein comprises the amino acid sequence of SEQ ID NO:23.

141 (previously presented). The method of claim 131, 132, 133, 134, 135, 136 or 137, in which the Delta protein comprises the amino acid sequence of SEQ ID NO:12.

142 (previously presented). An antibody produced by the method of claim 131, 132, 133, 134, 135, 136 or 137, which does not bind a *Drosophila* Delta protein.

143 (previously presented). The antibody of claim 142, in which the antibody is purified.

144 (previously presented). A composition comprising the antibody of claim 142, and a pharmaceutically acceptable carrier.

145 (previously presented). A composition comprising the antibody of claim 143, and a pharmaceutically acceptable carrier.